

Costs of Achieving Electronic Health Record Adoption

AHRQ HIT/HIE Current Funding in Wisconsin: \$3.3 million total over 3 years

The Department of Health and Human Services in 2004 rolled out the "The Decade of Health Information Technology: Delivering Consumer-centric and Information-rich Health Care." The goals are to transform the delivery of health care by building a new health information infrastructure, including electronic health records (EHRs) and a new network to link health records nationwide. AHRQ has awarded over 100 planning and implementation grants totaling \$96 million in 38 States to help communities, hospitals, providers, and health care systems plan, implement and demonstrate the value of health IT.

Planning for a Rural Prescription Medication Network

Description: Develops a shared electronic repository for patient-level prescription medication data that enables real-time access for patients receiving healthcare services and plans a model system design to electronically link prescription medication data across hospitals and physician practices.

Year 1 Funding: \$167,781 (Estimated total funding: \$167,781)

Principal Investigator: Robert Gribble

Applicant Institution: St. Joseph's Hospital, Marshfield, WI

Grant No.: P20 HS15327 (9/30/2004-9/29/2005)

Developing Shared EHR Infrastructure in Wisconsin

Description: Plans the implementation of a common infrastructure for an integrated EHR and CPOE to enhance access to clinical data, develops a workable model/plan for standards-based data sharing to allow multiple providers using disparate information systems to access patient information, and creates a quality measurement and enhancement tool that would measure improvements in quality and patient care.

Year 1 Funding: \$192,000 (Estimated total funding: \$192,000)

Principal Investigator: Tim Size

Applicant Institution: Reedsburg Area Medical Center, Reedsburg, WI

Grant No.: P20 HS15295 (9/30/2004-9/29/2005)

Improving Patient Safety/Quality with HIT Implementation

Description: Implements an Epic health IT system and diffuses the system community-wide; identifies the prevalence of medication errors, near misses, and preventable adverse drug events; assesses costs and customer satisfaction both before and after implementation.

Year 1 Funding: \$500,000 (Estimated total funding: \$1.5 million)

Principal Investigator: John Reiling

Applicant Institution: St. Joseph's Community Hospital, West Bend, WI

Grant No.: UC1 HS15284 (9/30/2004-9/29/2007)

CPOE Implementation in ICUs

Description: Assesses the implementation of CPOE systems in 6 intensive care units (ICUs) and evaluates the value and outcomes of patient safety involving medication errors; quality of care; end users' job tasks, perceptions, and attitudes; and financial impact.

Year 1 Funding: \$471,884 (Estimated total funding: \$1,455,066)

Principal Investigator: Pascale Carayon

Applicant Institution: University of Wisconsin, Madison, WI

Grant No.: R01 HS15274 (9/01/2004-8/31/2007)

Worksheet: Costs of Achieving 100% EMR Adoption among Wisconsin Physicians

2000 WI Physician Workforce Data: 18,573 licensed, about 14,000 practicing physicians

Primary Practice Setting and Practice Size

Outpatient: 68% (Multispecialty group practice 37%; Single specialty group practice 21%; Solo practice: 10%)

Hospitals: 20%; Academic setting : 10%; Other: 2%

Aggregated assumptions:

O.P. Large: 45%	x 33% = 2079
O.P. Medium 23%	x 25% = 805
O.P. Small 10%	x 21% = 294

Hospital-based: 22% x 60% = 1848

Total 5026 = 35% already EMR

Adoption Gap (currently no EMR) = 65% need EMR

Sensitivity Test

Start-Up and Maintenance Costs Grid with Varying Adoption Gap, Start-up Costs, and Annual Maintenance Cost per Physician

	Total WI Pract Physicians	14,000	14,000	14,000	14,000	14,000
	Adoption Gap %	0.65	0.50	0.40	0.25	0.10
	Adoption Gap Physician #	9,100	7,000	5,600	3,500	1,400
Start-Up						
Case 1	Cost per Phys	22,000	22,000	22,000	22,000	22,000
	Total Adopt cost	200,200,000	154,000,000	123,200,000	77,000,000	30,800,000
Case 2	Cost per Phys	33,000	33,000	33,000	33,000	33,000
	Total Adopt cost	300,300,000	231,000,000	184,800,000	115,500,000	46,200,000
Case 3	Cost per Phys	45,000	45,000	45,000	45,000	45,000
	Total Adopt cost	409,500,000	315,000,000	252,000,000	157,500,000	63,000,000
Case 4	Cost per Phys	60,000	60,000	60,000	60,000	60,000
	Total Adopt cost	546,000,000	420,000,000	336,000,000	210,000,000	84,000,000
Maintenance						
Case 1	Maint/phys/year	1,500	1,500	1,500	1,500	1,500
	Total Maint \$	13,650,000	10,500,000	8,400,000	5,250,000	2,100,000
Case 2	Maint/phys/year	3,000	3,000	3,000	3,000	3,000
	Total Maint \$	27,300,000	21,000,000	16,800,000	10,500,000	4,200,000
Case 3	Maint/phys/year	5,000	5,000	5,000	5,000	5,000
	Total Maint \$	45,500,000	35,000,000	28,000,000	17,500,000	7,000,000
Case 4	Maint/phys/year	8,500	8,500	8,500	8,500	8,500
	Total Maint \$	77,350,000	59,500,000	47,600,000	29,750,000	11,900,000

Estimating Potential RHIO Costs for Wisconsin

Using Arizona Estimates of statewide costs:

Central Coord \$3-4 M start	\$3-5 M/year (partially funded by fees)
HIE: \$1.5-\$3.0 M	\$2.5-4.0 M per 1 million pop (self-funded)
HIT: providers pay	\$3,000/ FTE (EMR-lite premium)

Start-up Total: 4.5 M + HIT adoption

Maintenance total/year: \$58M-67M/year

Central Coord: \$3-5 M
HIE: \$13-20M (self-funded)
HIT: \$42M/year

Potential for Local RHIOs

Dartmouth Atlas of Health Care: 108 HSAs and 8 Hospital Referral Regions in Wisconsin

HRRs: Appleton, Green Bay, La Crosse, Madison, Marshfield, Milwaukee, Neenah, Wausau

Santa Barbara method for projecting costs for large high penetration regions
(7-10 major hospitals, 3-5 major physician groups, 3-5 imaging centers, 5 PBMs,
2-3 independent labs, and 2000-5000 physicians)

Hospital	\$120K each
Imaging Center	\$110K each
Laboratory	\$110K each
Physician Group	\$120K each
Solo Physician	\$ 40 each